

**Notice of Allowability**

Application No.

10/067,343

Examiner

Michael S. A. Delgado

Applicant(s)

MALKOSH, MENACHEM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/12/2002.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 07 February 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

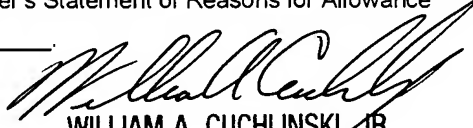
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 3/21/2002
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
WILLIAM A. CUCHLINSKI, JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

## DETAILED ACTION

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Harold L. Novick on March 9, 2005.

The application has been amended as follows:

#### **Amendments to the Specification:**

On page 6, please replace the second paragraph under the heading A Detailed Description of Preferred Embodiments@ with the following amended paragraph:

Preferably, the device 10 enables a network operator 15 to select a path, in a network in which diverse routing of protection paths is needed, e.g. a communication network (not shown), that can be used as a protection path to a main path 30 extending between a first network element  $Ne_f$  and a last network element  $Ne_l$  (not shown). The selection of the segments, sometimes also called the communication path segments, constituting this protection path is made from among a plurality of candidate segments 25, and is based on fulfilling several conditions in order that the protection path thus obtained may qualify as a protection path being in conformity with the risk level specified by the operator. Such communication network may include, for example, a synchronous network, such as a network based on at least one of the following: Synchronous

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Optical Network (SONET); Synchronous Digital Hierarchy (SDH); Plesiochronous Digital Hierarchy (PDH), or may be an Optical Transport Network (OTN), a datacom network such as an IP network, and the like, and any combinations thereof.

**Amendments to the Claims:**

**Listing of Claims:**

1. (Currently Amended) In a communication network, a method of allocating a second path of communication for use as a protection path for a first communication path, wherein the allocation is made in accordance with a chosen risk level definition, which method comprises:

- (i) providing data corresponding to physical and geographical deployment of a plurality of communication path segments belonging to the communication network;
- (ii) selecting N number of risk levels based on predefined criteria;
- (iii) for each of said N number of risk levels, assigning said plurality of communication path segments to a plurality of SRGs, where an SRG is a Shared Risk Group of communication path segments selected by predefined criteria so that all communication path segments belonging to any specific SRG are at risk of being damaged by a single damage event, where the probability of occurrence of such an event is represented by the risk level assigned to the specific SRG;
- (iv) choosing a first path of communication comprising a first group of communication path segments selected from among said plurality of communication path segments belonging to the communication network;

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- (v) defining a risk level R which represents the highest risk level to be prevented; and
- (vi) selecting a second group of communication path segments from among said plurality of communication path segments belonging to said communication network to establish said second communication path, wherein said second group of communication path segments satisfies the following conditions:

one of the selected segments of said second group starts at the starting point of the first path of communication;

one of the selected segments of said second group ends at the end point of the first path of communication;

all communication path segments belonging to the second group comprise one continuous path starting at the starting point of the first path and ending at the end point of the first path; and

there is no SRG to which the risk level R or lower was assigned, that contains both a communication segment belonging to the first communication path and a communication segment belonging to the second communication path.

2. (Original) A method according to claim 1, further comprising:

(vii) determining whether a second communication path, for which the selection conditions defined hold with respect to said first communication path, is found;

(viii) if not found, selecting a different first communication path, having the same starting point and ending point as the original first communication path;

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- (ix) repeating the step of selecting a second group of communication path segments with respect to said different first communication path;
- (x) determining whether a second communication path, for which the selection conditions defined hold with respect to said different first communication path, is found; and
- (xi) repeating steps (vii) to (x) *mutatis mutandis*, if the outcome of step (x) is negative.

3. (Currently Amended) The method according to claim 1, wherein said data comprises characterization of the communication path segments according to physical characteristics or location, such as: a sheath; a duct; a conduit; a reinforced conduit; a right-of-way (ROW); communication equipment; a crossing duct point of presence (POP); and a power generator.

4. (Original) The method according to claim 1, wherein said communication network is a member of a group comprising: an optical communication network, a datacom network, a synchronous network, and any combination thereof.

5. (Original) The method according to claim 1, wherein said communication network comprises an optical telecommunication network.

6. (Currently Amended) A device for allocating a second path of communication for use as a protection path for a first communication path, wherein the allocation is made in accordance with a chosen risk level definition, the device comprising:

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a database comprising data corresponding to physical and geographical deployment of a plurality of communication path segments belonging to a communication network, wherein said communication path segments are assigned to a plurality of SRGs for each of N number of risk levels, so that all communication path segments belonging to any specific SRG are at risk of being damaged by a single damage event, where the probability of occurrence of such an event is represented by the risk level assigned to the specific SRG;

an input/output (I/O) unit operative to receive a required input risk level; and

a processor operatively associated with the database and the I/O unit and operative to select a second group of communication path segments from among said plurality of communication path segments to establish said second communication path, wherein said second group of communication path segments satisfies the following conditions:

one of the selected segments of said second group starts at the starting point of the first path of communication;

one of the selected segments of said second group ends at the end point of the first path of communication;

all communication path segments belonging to the second group comprise one continuous path starting at the starting point of the first path and ending at the end point of the first path; and

there is no SRG to which the risk level R or lower was assigned, that contains both a communication segment belonging to the first communication path and a communication segment belonging to the second communication path.

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7. (Currently Amended) The device according to claim 6, adapted to operate in a network in which diverse routing of protection paths is ~~in~~ needed.

8. (Original) The device according to claim 7, wherein said network is an optical communication network.

***Allowable Subject Matter***

2. Claims 1-8 are allowed.

3. The following is an examiner's statement of reasons for allowance: Prior art failed to teach the method of assigning a protection path base on the physical and geographical characteristic of a path.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael S. A. Delgado whose telephone number is (571) 272-3926. The examiner can normally be reached on 7.30 AM - 5.30PM.

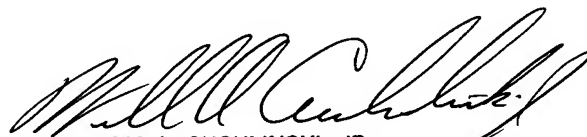
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM A CUCHLINSKI JR can be reached on (571) 272-3925

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The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
MD

  
WILLIAM A. CUCHLINSKI, JR.  
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